



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/361,478	07/26/1999	J. WALLACE PARCE	100/02510	5568
21569	7590	10/17/2005	EXAMINER	
CALIPER LIFE SCIENCES, INC. 605 FAIRCHILD DRIVE MOUNTAIN VIEW, CA 94043-2234			TSAI, CAROL S W	
		ART UNIT		PAPER NUMBER
				2857

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/361,478	PARCE ET AL.	
	Examiner	Art Unit	
	Carol S. Tsai	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 August 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 and 3-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 and 3-15 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 29, 2005 has been entered.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Publication 2004/0063162 to Dunlay et al.

Dunlay et al. disclose a computer program product for controlling an analytical instrument that analyzes microfluidic devices, comprising: code that includes a sequence of steps,

Art Unit: 2857

each step specifying at least one well of a microfluidic device, a value indicative of a driving force to be applied to fluid in the at least one well and a duration for applying the driving force specified by the value to the fluid in the at least one well; and a computer readable medium that stores the code (see Fig. 11 and paragraphs 0035, 0076, 0077, 0092, 0138-0140, and 0144).

As to claim 13, Dunlay et al. also disclose the sequence of steps storing on a computer readable medium and the computer readable medium being selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave (see paragraphs 0035 and 0075).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-11, 14, and 15 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Publication 2004/0063162 to Dunlay et al. in view of U. S. Patent No. 6,500,323 to Chow et al.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of

Art Unit: 2857

invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Dunlay et al. disclose a computer implemented method of controlling an analytical instrument that analyzes microfluidic devices comprising: receiving a sequence of steps, each step specifying at least one well of a microfluidic device, a value indicative of a driving force to be applied to fluid in at least one well and a duration for applying the driving force specified by the value to the fluid in the at least one well (see Fig. 11 and paragraphs 0076, 0077, 0138-0140, and 0144); for each step, applying the driving force specified by the value to the fluid in the at least one well in order to drive the fluid along a channel in the microfluidic device (see Fig. 11 and paragraphs 0076, 0077, 0092, 0095, and 0144); and scanning fluid as it passes a detection zone along the channel in the microfluidic device (see paragraphs 0076, 0095, 0104-0106, 0144, and 0145).

Dunlay et al. do not disclose driving the fluid along a channel in the microfluidic device.

Chow et al. teach driving the fluid along a channel in the microfluidic device (see col. 1, lines 61-66 and col. 3, lines 31-41).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Dunlay et al.'s system to include driving the fluid along a channel in the microfluidic device, as taught by Chow et al., in order to perform the analysis (see col. 1, line 66).

As to claim 14, Dunlay et al. also disclose a system, comprising: an instrument that controls and analyzes a microfluidic device (see Fig. 6 and paragraphs 0083-0087); a computer (PC 11 shown on Fig. 1) including a processor and a computer readable medium, the computer being capable of directing the instrument to apply a driving force to fluid in wells of the microfluidic device (see paragraph 0075-0078); and code stored on the computer readable medium that includes a sequence of steps, each step specifying at least one well of a microfluidic device, a value indicative of the driving force to be applied to fluid in the at least one well and a duration for applying the driving force specified by the value to the fluid in the at least one well ((see Fig. 11 and paragraphs 0075-0078, 0138-0140, and 0144)).

Dunlay et al. do not disclose driving the fluid along a channel in the microfluidic device.

Chow et al. teach driving the fluid along a channel in the microfluidic device (see col. 1, lines 61-66 and col. 3, lines 31-41).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Dunlay et al.'s system to include driving the fluid along a channel in the microfluidic device, as taught by Chow et al., in order to perform the analysis (see col. 1, line 66).

Art Unit: 2857

As to claims 3 and 4, Dunlay et al. do not disclose expressly a current/voltage to be applied to the fluid in the at least one well.

It is, however, considered inherent that Dunlay et al. apply a current/voltage to the fluid in the at least one well (see paragraph 0076), because a power input, either line AC current and/or low voltage DC current can be provided by the power supply in order to drive fluid flow.

As to claims 5 and 6, Dunlay et al. also disclose a pressure to be applied to the fluid in the at least one well (see paragraph 0092).

As to claims 7-10, Dunlay et al. also disclose loading a sample to a main channel in the microfluidic device and running the sample through the main channel past the detection zone (see paragraphs 0095, 0105, and 0106).

As to claims 11 and 15, Dunlay et al. also disclose the sequence of steps storing on a computer readable medium and the computer readable medium being selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave (see paragraphs 0035 and 0075).

#### *Response to Arguments*

7. Applicants argue that Dunlay et al. do not teach the limitation of “a value indicative of a driving force” since the term “driving force” within the context of the pending application, refers to a force that initiates fluid movement in channels within the microfluidic device, and the systems in Dunlay appear to be designed to interface with microplates with non-interconnected wells and since there are no internal channels in a microplate interconnecting the wells. The Examiner disagrees with Applicants. Dunlay et al. do disclose the systems in Dunlay et al.

Art Unit: 2857

appear to be designed to interface with microplates with interconnected wells since there are internal channels in a microplate interconnecting the wells (see paragraph 0095; the terms "well" and "microwell" refer to a location in an array of any construction to which cells adhere and within which the cells are imaged. Microplates may also include fluid delivery channels in the spaces between the wells). In addition, it is noted that the features upon which applicant relies (i.e., "a force that initiates fluid movement in channels within the microfluidic device" or "internal channels in a microplate interconnecting the wells") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicants argue that Dunlay et al. do not disclose a "computer program product" that controls fluid flow through channels since the portions of Dunlay cited in the Final Office Action appear to discuss the code that controls the movement of the entire microplate so that a camera or fluorescence detector can monitor a desired portion of the microplate, or so that fluid can be added to particular wells in the microplate from an external source; however, those processes bear no relation to flow control within a microfluidic device. The Examiner disagrees with Applicants. Dunlay et al. do disclose a "computer program product" that controls fluid flow through channels (see paragraph 0095; the terms "well" and "microwell" refer to a location in an array of any construction to which cells adhere and within which the cells are imaged. Microplates may also include fluid delivery channels in the spaces between the wells). In addition, it is noted that the features upon which applicant relies (i.e., "a "computer program product that controls fluid flow through channels") are not recited in the rejected claim(s).

Art Unit: 2857

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

*Conclusion*

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

*Contact Information*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. W. Tsai whose telephone number is (571) 272-2224. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

Art Unit: 2857

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).



Carol S. W. Tsai  
Primary Examiner  
Art Unit 2857

cswt  
October 13, 2005